

GPS Modernization

The Department of Transportation is working closely with the Department of Defense in modernizing the GPS system. The GPS Standard Positioning Service (SPS) refers to the signal-in-space provided free of direct user charges for peaceful civil, commercial and scientific use on a continuous, worldwide basis. Today, only one fully accessible signal (the C/A-coded signal at L1) is available for civil applications through the SPS. Therefore, the principle objective of modernization from a civil perspective is to provide additional coded civil signals.

In 1998, Vice President Gore announced that a second (L2C) and a third (L5) civil signal would be made available in future generations of GPS satellites. Currently, the L2C signal is scheduled to be available in 2004 and it will broadcast at the 1227.6 MHz frequency. The L5 signal, specifically designed for safety-of-life services, is scheduled to be available in 2006 at 1176.45 MHz. These new signals, coupled with the current signal in the L1 band, will improve the positioning, navigation, and timing capabilities that GPS provides to the vast array of civil and commercial applications, as well as provide increased protection of GPS signals from intentional and unintentional interference. The first new civil signal, L2C, will be available for non-aviation civilian users, and will enable dual channel civil receivers to correct for ionospheric error. The second new civil signal, L5, will be used in safety-of-life applications and can be used as a redundant signal to the L1 frequency.

The Office of Navigation and Spectrum Policy (OST/P-47) chairs the DOT Pos/Nav Working Group and co-chairs the Interagency GPS Executive Board (IGEB) Senior Steering Group. Through these groups, OST guides the civil inputs to the GPS modernization efforts.

Useful Links:

- Interagency GPS Executive Board <<http://www.igeb.gov>>
- U.S. Coast Guard Navigation Center <<http://www.navcen.uscg.gov>>
- FAA GPS Products Team <<http://gps.faa.gov>>
- GPS Joint Program Office <<http://gps.losangeles.af.mil>>